

### **Remarks**

Claims 1 through 33 were pending in this application, and claims 6, 19, 29, 30, and 34 have been canceled.

### **Specification**

Applicants submit herewith a marked-up specification and substitute specification. Paragraph numbering and section titles have been included in these specifications for convenience and references in the description to the claims have been deleted. The Abstract has also been rewritten to conform to MPEP §608.01.

No new matter has been added by these changes.

### **Drawings**

Applicants submit herewith a replacement sheet 1, 4, and 5 as requested by the examiner. Fig. 2 on Sheet 1 has been amended to include clearer lead lines from numerals 61 and 62, and to translate the words in the Figure from German to English. It is believed that the discontinuity in the pressure curves was already shown as between the angles of lines 63 and 64, and lines 61 and 62 in Fig. 2.

In addition, Figs. 7 through 14 on sheets 4 and 5 have been redrawn with improved lines.

### **Rejection under 35 U.S.C. §112**

Claim 17 was rejected under 35 U.S.C. §112, first paragraph, because the specification, while being enabling for an input signal from a pressure measuring unit, does not reasonably provide enablement for an input signal from any other component.

Claims 6 to 10, 12 to 18, 24 and 33 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. It appears that claim 34 was included in this

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rejection because it is discussed on page 9 of the Action and listed as rejected on the summary page, but it has been canceled. These claims were rejected because they failed to conform with standard U.S. claim drafting practices. These claims have been amended.

In particular: claims 7 and 8 no longer recite the term “substantially;” claim 9 the issue regarding a lack of antecedent basis has been overcome by referring to specific language from claim 1 and using a pressure speed rate change to occur at a time when the liner is in contact with an animal’s teat (supported in the marked-up specification at paragraph 88); claim 10 has been amended to overcome the antecedent basis issue by including specific language from claim 1 and using the indefinite article “a” for terms used for the first time; claim 12 has been amended to depend from claim 10 and use terms with an appropriate antecedent basis; claim 13 has been amended to depend from claim 10 and use terms with a proper antecedent basis; claim 14 has been amended to depend from claim 10 and use terms with a proper antecedent basis; claim 15 and 16 have been amended to recite a pulsator valve body to avoid any confusion and to recite the pressure changing phase as the same as recited in claim 1; claim 17 has been amended to delete references to signals and now simply recites measuring pressure in the pulse chamber and controlling a pulsator actuator based on the pressure measurement; claim 18 has been amended to better conform with U.S. claim drafting standards; claim 23 has been amended to recite a pulsator valve with a variable valve chamber opening to better conform the claim to U.S. patent claim standards; claim 24 now recites the valve chamber opening consistently with claim 23; claim 32 has been amended to delete any reference to a “device;” claim 33 now uses terms with proper antecedent basis; and claim 34 has been canceled.

Applicants respectfully submit that the §112 rejections have been traversed, and that no new matter has been added.

### **Additional Amendments**

Claim 1 has been amended to recite the object of this invention as stated at page 4, paragraph 19 of the substitute specification where it states:

The invention is based on the general reflection that the curve, in particular the time curve of the evacuation phase and/or the ventilation phase is adjusted by means of two pressure changing rates. This option allows the adjustment of the pressure drop and rise in the pulse chamber to be fast on the one hand while on the other hand being slow and gentle so as to allow a gentle *but nonetheless fast milking operation*. The time period which a pressure changing phase requires, is insignificantly longer than in the prior art. Given a correspondingly higher ventilation rate after the liner is placed snug on the teat, which rate will then be harmless, *the time period may have the same length*.

(Emphasis added.)

Thus, by first defining a standard pressure changing phase duration where no changes are made to pressure changing speed rates as claim 1 now recites, the pressure curve can be adjusted to include at least two pressure changing speed rates and yet not substantially exceed the standard pressure changing phase duration. This is a novel and non-obvious improvement over the art of record.

Other amendments have been made to make the claims more conforming to U.S. claim drafting standards. No new matter has been added.

### **Rejection under 35 U.S.C. §102**

Original claims 1 to 5, 7 to 12, 14, 17 to 19, 21 to 23, 26, 28 to 30, 33 and 34 were rejected under 35 U.S.C. §102(b) as being anticipated by *Grimm et al.*, U.S. Patent 5,970,910. Claims 1, 6, 12, 13, 18, 20 and 23 to 25 were rejected under 35 U.S.C. §102(b) as being anticipated by *Innings et al.*, U.S. Patent 6,009,832. Claims 19, 29, 30, and 34 have been canceled.

To maintain a rejection under 35 U.S.C. §102(b), all of the elements of each claim must be disclosed in a single reference. The test for anticipation requires a strict, not substantial, identify of corresponding claim elements. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334-35, 2008 U.S. Appl. LEXIS 8404, 27-28 (Fed. Cir. 2008).

### **Rejection under 35 U.S.C. §103**

Claims 15, 16, 27, 31, and 32 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Grimm et al.* in view of *Kaneko*, U.S. Patent 5,897,304 or *Krone*, U.S. Patent 5,628,491 or *Grimm et al.* as a stand-alone reference.

### ***The Standard for Prima Facie Obviousness***

To establish a *prima facie* case of obviousness a three-prong test must be met. First, there must be some suggestion or motivation, either in the references or in the knowledge generally available among those of ordinary skills in the art, to modify the reference. Second, there must be a reasonable expectation of success found in the prior art. Third, the prior art reference must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). See M.P.E.P. §2143. This is modified by the motivation flowing from (1) the prior art references, (2) the knowledge of the skilled technologist, or (3) the nature of the problem being solved. *In re Dembiczak*, 775 F. 3d 994 (Fed. Cir. 1999). This rule has been clarified as being flexible in allowing a reason to combine that may not be limited to a teaching, suggestion or motivation. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007).

Obviousness is not to be read into an invention on the basis of the Applicant's own statements; that is, the prior art must be viewed without reading into that art Applicant's teachings. *In re Murray*, 268 F. 2d 226, 46 CCPA 905; *In re Sporck*, 301 F.2d 686, 49 CCPA 1039. The issue, then, is whether the teachings of the prior art would, in and of themselves and

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without the benefits of Applicant's disclosure, make the invention as a whole, obvious. *In re Leonor*, 395 F.2d 801, 55 CCPA 1198.

The Federal Circuit has strictly prohibited the use of the patent or invention at issue as a tool to combine prior art references to find obviousness. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). The obviousness of a claim should not be decided through the use of the claim as a "guide through a maze of prior art references which combine the right references in the right ways so as to achieve the result of the invention, as defined by the asserted claim." *General American Transportation Corp. v. Cryo-Trans, Inc.*, 893 F.Supp 774, 793 (N.D. Ill. 1995).

"The tendency to resort to 'hindsight' based upon Applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art." M.P.E.P. §2142.

While the Supreme Court in *KSR*, 127 S. Ct. at 1742, expressed its view that the Federal Circuit has at times overemphasized "the risk of courts and patent examiners falling prey to hindsight bias," the bar to using hindsight in determining obviousness remains good law. *See, e.g., Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1326 (Fed. Cir. 2008) (recognizing continuing obligation to guard against hindsight bias). *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373 (Fed Cir. 2008) (same). As the *KSR* Court expressly noted, "[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning." *KSR*, 127 S. Ct. at 1742.

A flexible approach to the TSM (teaching, suggestion, or motivation) test remains the primary guarantor against a hindsight-based obviousness analysis. *Ortho-McNeil Pharm., Inc. v.*

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*Mylan Labs., Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008). The TSM test, flexibly applied, prevents hindsight and ensures that the obviousness inquiry focuses on evidence that existed before the time of invention, but without unduly constraining the knowledge and creativity of an ordinary skilled artisan. *Ortho-McNeil Pharm*, 520 F.3d at 1364-65; *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1260 (Fed. Cir. 2007). When making an obviousness inquiry, one must “guard against slipping into use of hindsight and...resist the temptation to read into the prior art teachings of the invention in issue.” *Abbot Labs., v. Sandoz, Inc.*, 544 F.3d 1341, 1348 (Fed. Cir. 2008) (quoting *Graham*, 383 U.S. at 36). To avoid improper hindsight, proper analysis “takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from Applicant’s disclosure, such a reconstruction is proper.” *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971).

“Following the Supreme Court’s direct statements in *KSR*, obviousness is demonstrated when ‘there is a design need or market pressure to solve a problem *and there are a finite number of identified, predictable solutions.*” See M.P.E.P. §2143.01 (“If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose then there is no suggestion or motivation to make the proposed modification.” See M.P.E.P. §2141.02 (“Prior art must be considered in its entirety, including disclosures that teach away from the claims.”)

*Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005)

***Grimm et al.***

*Grimm et al.* discloses a method of milking an animal with a vacuum cycle as illustrated by broken lines 19 and 20 in Fig. 9 and line 24 in Fig. 10. As seen in these pressure curves, the application of “low efficiency” pressure to slow down liner movement during pulsation results in

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a longer pulsing cycle. While this may result in a gentler milking pulsation, the duration of the pulse cycle will be longer. There is no disclosure in *Grimm et al.* of a pulsation cycle represented with a pulsation curve that is substantially flatter yet cycles at a normal rate.

Thus, *Grimm et al.* discloses a modified pressure change phase for a milking cycle, but as is seen in Figs. 9 and 10 of *Grimm et al.* the pressure changing phase is significantly longer and will result in longer milking times to achieve a desired result. Applicants are aware of no disclosure in *Grimm et al.* that recognizes problems associated with extended milking times and there is no disclosure of any method or device that accomplishes a modified milking pressure changing phase that reduces stress on an animal while maintaining standard pressure changing phase durations.

This is not a minor or obvious detail in a modified milking process. Indeed, extending milking times in a commercial dairy results in reduced efficiency and fewer animals milked in any given parlor size. Even in view of these constraints, *Grimm et al.* fails to disclose, or suggest, teach or motivate one skilled in the art to use pressure phase changing methods or apparatus to reduce animal stress *without* extending milking times, as recited in independent claims 1 and 18.

In the present invention, pressure phases and/or evacuation phases that are within the overall pulsation cycle are varied to achieve improved milking without extending the pulsation cycle. To accomplish this objective, a valve operation in accordance with the present invention is provided in valve 9, or valves 20 and 21 (in alternate embodiments).

#### **Allowability over *Grimm et al.***

Given that *Grimm et al.* fails to disclose a key element of the amended independent claims 1 and 18, the anticipation rejections are not appropriate.

Further, the obviousness rejections fail to meet the *prima facie* standard. There is no teaching, motivation or suggestion in *Grimm et al.* to modify a milking process to improve animal comfort and yet maintain standard milking times or durations. This is true regardless of whether *Grimm et al.* is taken alone or in combination with *Kaneko* or *Krone*. Thus, amended claims 15, 16, 27, 31, and 32 would not have been obvious to one of ordinary skill in the art.

***Innings et al.***

*Innings et al.* is understood to *monitor* not *control* the pressure changing phase in a pulse chamber. Figs. 2 and 3 do not illustrate controlled changes in a pressure curve. Rather they illustrate pressure curve changes that naturally occur when a liner contacts or releases from an animal.

The only controlling of the pressure changing phases does not occur during the phase itself. Rather the controlling is done in subsequent phases as a function of actual milk flow. This is not a disclosure of varying pressure changing phases with two or more changes in pressure changing speed rates. This is clear where *Innings et al.* states:

The object of the present invention is to overcome the disadvantages mentioned above and to provide an improved way of controlling the milking process *in response to the actual milk flow*.

Controlling the *milking intensity* may comprise controlling one or more of milking parameters, such as the milking vacuum level, the maximum pulsating vacuum level, the pulsator ratio, the pulsating frequency, etc. E.g. a reduction of the milking vacuum level, the maximum pulsating vacuum level or the pulsator ratio, or by increasing the pulsating frequency.

(Emphasis added.)

None of these options disclosed by *Innings et al.* is a disclosure of controlling pressure change rates in a single pressure change phase or changing the pressure change rates and still be within the duration of a standard pressure change phase.



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**Allowability over *Innings et al.***

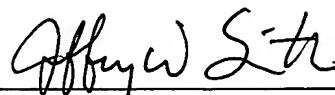
In view of the above, *Innings et al.* fails to disclose a method as recited in any of the amended claims. Thus, Applicants respectfully submit that the amended claims are not anticipated by *Innings et al.*

Applicants respectfully submit that pursuant to 35 U.S.C. §112 paragraph 4, the dependent claims incorporate by reference all the limitations of the claim to which they refer and include their own patentable features, and are therefore in condition for allowance. Therefore, Applicants respectfully request the withdrawal of all claim rejections and prompt allowance of the claims.

**Conclusion**

For the foregoing reasons, Applicants respectfully submit that the specification and drawings satisfy USPTO standards, and that the claims are allowable over the art of record. Applicants respectfully request that this case be passed to issue.

Respectfully submitted,



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